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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,271	07/30/2001	Chen-Ho Lee	112.P14007	8683

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EXAMINER

QUIETT, CARRAMAH J

ART UNIT	PAPER NUMBER
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2622

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No:

09/916,271

Applicant(s)

LEE, CHEN-HO

Examiner

Carramah J. Quiett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/14/2006 has been entered.

Interview Summary

2. The Examiner acknowledges the Applicant's response, filed 04/17/2006, to the Interview Summary (mail date: 03/17/2006). Particularly, the Applicant disagrees to the substance of the interview in regards to the prior art reading on claim 1.

Response to Amendment

3. The amendment(s), filed on 03/14/2006, have been entered and made of record. Claims 1-18 are pending.

Response to Arguments

4. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 14 and 17 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 14 recites the limitation "...wherein said photocells comprise metal oxide semiconductors, charge-coupled devices, and/or combinations thereof." in the last line of the claim. What is "and/or combinations thereof"? There is insufficient antecedent basis for this limitation in the claim. Accordingly, the limitation for claim 14 will be analyzed as "...wherein said photocells comprise metal oxide semiconductors or charge-coupled devices", which is best understood by the Examiner at this time.

8. Claim 17 recites the limitation "...wherein said photocells comprise metal oxide semiconductors, charge-coupled devices, and/or combinations thereof." in the last line of the claim. What is "and/or combinations thereof"? There is insufficient antecedent basis for this limitation in the claim. Accordingly, the limitation for claim 14 will be analyzed as "...wherein said photocells comprise metal oxide semiconductors or charge-coupled devices", which is best understood by the Examiner at this time.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. **Claims 1-2 and 12-17** are rejected under 35 U.S.C. 102(b) as being anticipated by Stoffel et al. (U.S. Pat. #4,432,017).

As for **claim 1**, Stoffel teaches a method of reading pixel signals from a staggered sensor (col. 2, line 43 – col. 3, line 49), comprising:

receiving pixel signals from a staggered sensor which comprises at least two linear image sensors (col. 2, lines 43-46), wherein one or more photocells of one said linear image sensor are offset abutting with one or more photocells of said adjacent linear image sensor (col. 2, lines 46-57); and

creating an image utilizing said pixel signals from said one or more photocells of one said linear image sensor, without utilizing said pixel signals from said other linear image sensor (col. 2, line 58 – col. 3, line 14).

For **claim 2**, Stoffel teaches the method wherein said photocells comprise one or* more charge-coupled devices (col. 2, lines 43-46).

As for **claim 12**, Stoffel teaches a method, comprising:

receiving signals from a staggered sensor portion, said staggered sensor portion comprising at least two image sensors wherein one or more photocells of a first image sensor are offset and adjacent one or more photocells of a second image sensor (col. 2, lines 43-57); and

outputting a image comprising signals from one of said first image sensor or* said second image sensor (col. 2, line 58 – col. 3, line 14).

For **claim 13**, Stoffel teaches the method further comprising outputting an image comprising signals from the other of said first image sensor or said second image sensor (col. 2, line 58 – col. 3, line 14).

For **claim 14**, Stoffel teaches the method wherein said photocells comprise metal oxide semiconductors, *charge-coupled devices*, and/or combinations thereof (col. 2, lines 43-51).

As for **claim 15**, Stoffel discloses a system (fig. 2a), comprising:

an image sensing portion (28) comprising at least two image sensors wherein one or more photocells (32a, 32b) of a first image sensor (32) are offset (col. 2, lines 43-57; col. 3, lines 2-7) and adjacent one or more photocells (30a, 30b) of a second image sensor (30) (col. 2, lines 43-57; col. 3, lines 18-26); and

a scanning circuit (42/44) capable of* receiving signals from said first and second image sensors, and capable of* outputting an image based at least in part upon the received signals from one of said first image sensor, or said second image sensor (col. 3, lines 37-43).

For **claim 16**, Stoffel discloses the system according wherein said scanning circuit is further capable of* outputting an image based at least in part upon the other of said at least two image sensors (col. 3, lines 37-43).

For **claim 17**, the claim is very similar to the limitation in claim 14. Therefore, claim 14 is analyzed and rejected as discussed in claim 14.

11. **Claims 1, 3-4, ~~16~~, and 18** are rejected under 35 U.S.C. 102(e) as being anticipated by Boyd et al. (U.S. Pat. #6,166,831).

As for **claim 1**, Boyd teaches a method of reading pixel signals from a staggered sensor, comprising:

receiving pixel signals from a staggered sensor which comprises at least two linear image sensors, wherein one or more photocells of one said linear image sensor are offset abutting with one or more photocells of said adjacent linear image sensor (col. 3, line 48 -col. 4, line 2); and

creating an image utilizing said pixel signals from said one or more photocells of one said linear image sensor, without utilizing said pixel signals from said other linear image sensor (col. 3, lines 56-58).

Regarding **claim 3**, Boyd teaches the method wherein said photocells comprise one or more sensors comprising a complementary metal oxide semiconductor (col. 2, lines 34-35 and 42-52).

For **claim 4**, Boyd further teaches the method wherein said reading out operation is (inherently) coordinated with at least a series of clock pulses (col. 3, line 48 -col. 4, line 10).

As for **claim 18**, Boyd discloses a system (fig. 4) comprising:

a means (42b/44b) for receiving signals from a staggered image sensing means (col. 3, line 48 – col. 4, line 2); and

a means (20b/22b) for outputting a image comprising signals from said staggered image sensing means (col. 3, line 48 – col. 4, line 2).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Stoffel et al. (U.S. Pat. #4,432,017).

For **claim 5**, Stoffel discloses a method of outputting said pixel signals from said consecutive photocells of one said linear image sensor (col. 3, lines 37-43). However, Stoffel does not expressly teach the method of outputting said pixel signals from said consecutive photocells of one said linear image sensor into an analog/digital converter. The Examiner takes Official Notice that it is well known in the art to output said pixel signals from said consecutive photocells of one said linear image sensor into an analog/digital converter. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Stoffel's method of outputting said pixel signals into an analog/digital converter in order to improve the quality of the scanned image.

14. **Claims 6-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (U.S. Pat. #6,522,356) in view of Stoffel et al. (U.S. Pat. #4,432,017).

As for **claim 6**, Watanabe teaches a method of video output applicable on a multiple staggered sensor, in figs. 9-12, comprising:

providing at least two sensor rows in said multiple staggered sensor, each said sensor row comprising one or more photocells (fig. 9; col.8, line 45 - col. 9, line 21);

However, Watanabe does not expressly teach a method of reading a scan line with one or more pixels by one of said sensor rows to generate a first consecutive video signals; offsetting

reading said scan line with said pixels by the other of said sensor rows to generate a second consecutive video signals; and outputting said video output consisting of at least said first consecutive video signals.

In a similar field of endeavor, Stoffel teaches a method of reading a scan line with one or more pixels by one of said sensor rows to generate a first consecutive video signals (col. 2, lines 43-57);

offsetting reading said scan line with said pixels by the other of said sensor rows to generate a second consecutive video signals (col. 2, line 58 – col. 3, line 14); and

outputting said video output consisting of at least said first consecutive video signals (col. 2, line 58 – col. 3, line 14). In light of the teaching of Stoffel, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Watanabe with offset reading/scanning method in order to produce an image with a single pulse train on the same integrated circuit chip (col. 3, lines 37-43).

For **claim 7**, Watanabe, as modified by Stoffel, further teaches the method wherein said one or more photocells of one said sensor row are offset abutting with said one or more photocells of the other adjacent sensor row. Please read Watanabe – fig. 3A; fig. 9; col. 6, lines 50-61, col. 8, lines 45-64 and Stoffel – col. 2, lines 43-57.

For **claim 8**, Watanabe, as modified by Stoffel, teaches the method wherein said photocells comprise one or* more charge-coupled devices (Stoffel – col. 2, lines 43-46).

Regarding **claim 9**, Watanabe, as modified by Stoffel, further teaches the method wherein said one or more photocells comprise a plurality of sensors of complementary metal oxide semiconductor. In col. 8, lines 45-51, Watanabe states that an X-Y scan reading type

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imaging apparatus is illustrated in fig. 9 with a plurality of pixels. X-Y scan reading type imaging apparatus inherently has a plurality of complementary metal oxide semiconductor (CMOS) sensors.

Lastly for **claim 10**, Watanabe, as modified by Stoffel, teaches the method wherein said video output further comprises the other of said first or second consecutive video signals (Stoffel – col. 3, lines 37-43).

For **claim 11**, Watanabe, as modified by Stoffel, discloses a method of outputting said pixel signals from said consecutive photocells of one said linear image sensor (Stoffel – col. 3, lines 37-43). However, Watanabe and Stoffel do not expressly teach the method of outputting said pixel signals from said consecutive photocells of one said linear image sensor into an analog/digital converter. The Examiner takes Official Notice that it is well known in the art to output said pixel signals from said consecutive photocells of one said linear image sensor into an analog/digital converter. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Watanabe with the A/D converter in order to improve the quality of the scanned image.

***Note:** The U.S. Patent and Trademark Office considers Applicant's "*or*" language to be anticipated by any reference containing one of the subsequent corresponding elements.

****Note:** The Applicant's "*capable of*" language as used in the claims broadens the scope of the claims. The MPEP states that, "Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by language that does not limit a claim to a particular structure." (MPEP 2111.04 [R-3]) In other words at the U.S. Patent and

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Trademark Office, if a limitation is written with “capable of” language, a reference is deemed to meet that limitation if the reference discusses the same element that, although not actually performing the claimed function, is **structurally capable of** performing it. Accordingly, the Examiner *will not* give a limitation with “capable of” language patentable weight.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kadekodi et al. (U.S. Pat. #4,712,137)

A high density CCD imaging array with a
bilinear array of photosites on a single IC chip.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571) 272-7316. The examiner can normally be reached on 8:00-5:00 M-F.

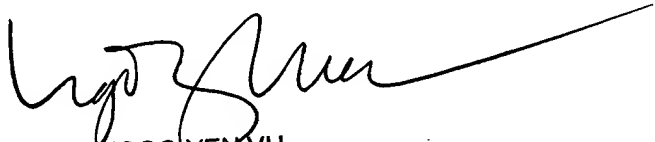
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CJQ

May 26, 2006



NGOC YEN VU
SUPERVISORY PATENT EXAMINER